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Applicant(s) : Christian LORENZ et al.
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**INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97(b),
AND EXPLANATION OF THE RELEVANCE OF THE CITED PRIOR ART**

Sir:

The undersigned hereby requests that the prior art cited on the attached prior art statement be placed of record in the application file and be considered by the examiner.

This citation of prior art is made under 37 CFR 1.97(b), since it is being filed before the mailing date of the first Office Action.

The relevance of the prior art cited on the attached forms PTO/SB/08 is as follows:

JP 2-305930

The purpose of this invention is to efficiently remove the residual stresses of a work and to obtain a high treatment effect having high reliability by subjecting the work to a rotational oscillation treatment in accordance with the measured values of the residual stress distribution and level of the work. The residual stress distribution and level of the work are measured. The work is rotationally oscillated in accordance with the measured values. Since oscillation transmission characteristics are respectively intrinsic, the oscillation frequencies

for the work of the same quality, the same weight and the same shape are preferably increased in accordance with a preset oscillation acceleration level. In addition, the uniform treatment is attained by changing the direction of the rotational oscillation. Further, the above-mentioned rotational oscillation is executed at the resonance point of the work or at the resonance point at arbitrary plural points. The resonance at the max. resonance point is executed by oscillating the work in such a manner that the acceleration level follows up the displacement of the resonance point. The residual stresses of the work are efficiently removed in this way and a sufficiently permissible dimensional change rate is obtained.

JP 5-141540

The purpose of this invention is to obtain a volumetric flow control valve for overcome disadvantages existing in a conventional control valve and improving sealing between a valve body and a valve housing in an at least partially closed valve body position. A volumetric flow control valve comprises a movable part 1 and a housing 2 for accommodating the movable part 1. The part 1 and the housing 2 are molded with the same tool. The housing 2 is molded in a first step and the disc 1 is molded in a second step. The movable part 1 and the housing 2 are molded in at least two steps. The movable part 1 comprises a sealing portion 11 which forms seal-contact with a predetermined portion of the housing 2. The movable part is preferably a butterfly disc 1 and the housing is preferably a butterfly valve housing 2.

JP 5-292593

The purpose of this invention is to improve the heat resistance of the diaphragm by using specific materials at a specific mixing ratio and employing a new molding method. A main component is obtained by mixing 5-50% polyether sulfone(PES) and polymer alloy of aramid, and the polymer alloy is shaped by injection and then thermally treated at temperature above the glass transition temperature of the aramid. Then the aramid and PES are blended, formed in the shape of the diaphragm by using a shape mold consisting of upper and lower molds 1a and 1b and a heating wire 3. The aramid and PES in a soluble and amorphous single phase causes phase separation by the heat treatment to accelerate the crystallization of the aramid by the PES; and this method is suitable for the machining with much higher heat resistance than single aramid and the heat resistance of the molding can be improved.

JP 7-242286

The purpose of this invention is to obtain a heat-resistant IC tray which is molded of a resin composition excellent in fluidity and moldability, is excellent in heat-resistance which allows using it at a specified high-temperature and durability for repeated use, and has a high accuracy in dimension and shape-stability without deformation such as warp, distortion, etc. A resin composition, which contains a base material composed of. 40-100wt.% of aromatic polysulfone resin and 0-60wt.% of polycarbonate resin, 3-20wt.% of electroconductive carbon black and 2-20wt.% of mica powder, is injection-molded.

JP 10-205359

The purpose of this invention is to provide an air amount controller capable of preventing a throttle valve from being fixed (stuck) and fro not returned caused by freeze and deposit to be generated in engine starting (in the cold) in the early morning in the cold

district, and capable of preventing interference between the throttle valve and a throttle body in the high-temperature atmosphere. In an air amount controller provided with a throttle valve 103 and a throttle body 101 formed by using composite material taking a synthetic resin as a matrix, the coefficient of linear expansion in the radial direction of the throttle valve, measured in the range of the atmosphere temperature of -40°C or more and 20°C or less is larger than the coefficient of linear expansion in the radial direction of the throttle body, measured in the temperature range by values in the range of 0.00003 to 0.00004.

JP 10-252507

The purpose of this invention is to prevent an idle speed from decreasing to a prescribed value or less and an engine from stopping, due to that in a peripheral part of a throttle valve and an internal peripheral part opposed by the throttle valve when it is closed of a throttle body, a combustion product composed of combustion soot, viscous substance, etc., adheres to be deposited, when the throttle valve is closed, an intake air amount is decreased. A material has a characteristic suppressing or preventing a combustion product composed of combustion soot, viscous substance, etc., contained in gas of EGR gas, blow by gas, etc., from sticking to a peripheral part of a throttle valve main unit 3A and an internal peripheral part opposed to a throttle valve 3 when it is closed of a throttle body main unit 2A. A throttle device 1 is used with the throttle valve 3 and/or a throttle body 2 insert molding an insert member 3B, 2B using the material.

JP 10-266873

The purpose of this invention is to provide a costless and satisfactory sealing performance between a bearing hole formed in an valve body and a shaft with a valve. A large diameter part 9a of a shaft 9 is rotatably supported on a bearing hole 11 formed in an valve body 1, and a rotatable valve 3 which is rotatable together with the shaft 9 and opens or closes an air intake path in the valve body 1 are accommodated in the valve body 1. The valve body 1 consists of two half split bodies 5, 7 bordering the bearing hole 11, and butting surfaces 5a, 7a respectively of the two half split bodies 5, 7 are connected and fixed each other such that the shaft 9 with the valve 3 is assembled into the bearing hole 11. A seal ring 21 is interposed between large diameter part 9a of the shaft 9 and the bearing hole 11, the seal ring 21 is fitted, while a prescribed clearance is kept, into an annular groove 23 which is formed on the inner surface of the bearing hole 11.

JP 11-226985

The purpose of this invention is to provide a molded article of glass fiber reinforced polyamide resin which is excellent remarkably in mechanical characteristics, particularly in fatigue characteristics and creep characteristics. An injection molded article constituted of a composition which is a glass fiber reinforced polyamide resin composition prepared by melting and kneading polyamide resin A of A pts.wt. and glass fibers B of B pts.wt. in the relation of $A+B=100$ pts.wt., and in the condition of $40 \leq A \leq 90$ pts.wt. and $10 \leq B \leq 60$ pts.wt. and wherein grafted polyamide resin exists on an interface between the polyamide resin and the glass fibers therein and the amount of the grafted polyamide resin is 0.1-2 pts.wt. for the glass fibers of 100 pts.wt. A peak value of $\tan \delta$ of α relaxation in a temperature dispersion spectrum of the dynamic viscoelasticity of the molded article cut out in the direction of flow satisfies $\tan \delta \leq 3.2 \times 10^{-4} \times B + 0.0656$.

JP 11-294203

The purpose of this invention is to shorten a development period by narrowing a clearance between an outer circumference of a throttle valve and an air duct inner circumference of a throttle body as possible and securing a rotating operation of the throttle valve when an air flow control device composed of the throttle body and the throttle valve is made of a resin material. An air flow control device comprises a throttle body 11 made of a composite material, base material of which is a synthetic resin, a throttle valve 12 which has a plate surface 12a and a profile 12b which is formed to fit to an air duct 11a, a throttle shaft 13 supporting the throttle valve, and a bearing 14 supporting the throttle shaft to be rotatable, wherein a molding shrinkage rate, to a spreading direction of the plate surface 12a of the composite material which forms the throttle valve is larger than a molding shrinkage to a direction crossing the air duct 11a of the composite material which forms the throttle body 11.

JP 52-109556

No abstract available for this patent. It is cited to show state of the art.

JP 57-070627

The purpose of this invention is to obtain the mass-productive, high quality ventilator continuously, integrally and at low cost by injecting synthetic resin into the cavity shaped by a second mold, a reverse mold and a grille frame and forming the louvre. The grille frame B is formed by injecting melted resin from a cylinder into the cavity for the grille frame B via a sprue 9 and a gate runner 10. Then, the reversal mold 3 is reversed by rotation, keeping to hold the grille frame B, the second mold 2 and the reversal mold 3 are clamped. The louvre E is formed by injecting melted synthetic resin from the cylinder into the shaped cavity via a sprue 11 and a gate 12. After the louvre E is solidified, the second mold 2 and the reversal mold 3 are released, the ventilator A of which the louvre E is incorporated into the grille frame B is released from the second mold 2. In this time, the gate 12 is cut automatically.

JP 61-118458

No abstract available for this patent. It is cited to show state of the art.

JP 61-121913

The purpose of this invention is to permit to simplify the assembled molding of the airflow direction regulating device made of synthetic resin by a method wherein a part of the rim section of a fixed blade for an outer frame is employed at a part of the surface of a cavity for a mold, molding a movable blade, in order to mold one part of the rim section of the movable blade. The outer frame 1, molded by injection molding of ABS resin 2 beforehand, is inserted and the molds A, B are closed. The molds A, B are provided with a cavity C for molding respective movable blades 11 in parallel to the outer frame 1 while the notched section 8 of respective fixed blades 6 of the outer frame 1 and the hole 4 for a shaft on an outer wall 3 are employed for the part of the cavity surface of the molds A, B. Subsequently, PP resin 12, bad in bonding property with respect to the resin 2 and having a melting point lower than the same of the resin 2, is injected into respective cavities C through a gate 12 to mold respective blades 11. In this case, the shaft 14, hinge sections 19, a cooperating rod 20 are molded integrally with the blades 11. According to this method, the assembled molding of desired airflow direction regulating device may be simplified.

JP 2000-020866

The purpose of this invention is to execute failure judgment under the consideration of

the variation of each equipment by classifying the operating efficiency of each equipment for each load condition, comparing the present operating efficiency with the past operating efficiency in a database under the same load condition, and evaluating the present operating state of each equipment. This device is provided with a sensor for detecting a load condition in a space where each equipment is set. In a centralized controller 69, the operating efficiency of each equipment is classified and preserved for each load condition, and a mean operating efficiency is calculated from the operating efficiency of each equipment, and classified and preserved for each load condition so that a database 73 related with the past operating efficiency can be constructed. A change detecting part 77 compares the present operating efficiency of the equipment with the past operating efficiency data in the database under the same load condition, and evaluates the present operating state of the equipment. When any load condition is not obtained from the sensor, the past load condition data matched with the present mean operating efficiency are estimated as the present load condition.

JP 2000-204974

The purpose of this invention is to prevent the bubbling phenomenon and enhance the precision of air flow control by molding a throttle body having an air flow passage formed therein and a throttle valve having an integrally molded valve body by use of the same molding die. A molding die 1 for air flow control device is set in a two-color molding injection molding machine. A PEI resin composition is used as a throttle body resin, and it is injected to a throttle body molding space CB through a body resin injection passage 8 to mold a throttle body. Further, the PEI resin composition is used as a throttle valve resin, and it is injected into a throttle valve molding space CV and a valve shaft molding space CS through a valve resin injection passage 9 provided on an upper inside and valve surface molding die 6, whereby a throttle valve having a valve body integrated with a valve shaft part is molded. According to this, the mechanical strength of the valve body of the throttle valve can be enhanced to enhance the precision of air flow control.

JP 2001-74156

The purpose of this invention is to provide the manufacture of an air flow rate control device and molding die thereof which prevent the deposition of a throttle body and a throttle valve and promote their separation. A lubricating material is interposed in an interface between a throttle body 163 and the throttle valve at the time of molding, in the manufacturing method for an air flow rate control device having the body 163 molded from fiber composite material having resin as a matrix, and forming an air flow passage, a throttle shaft 165 turnably supported on the body 163 in a condition for penetrating the body 163, and a throttle valve molded from fiber composite material having resin as a matrix, and fixed to the shaft 165 and turned in the body 163 to open/close the air flow passage.

JP 2003-1700

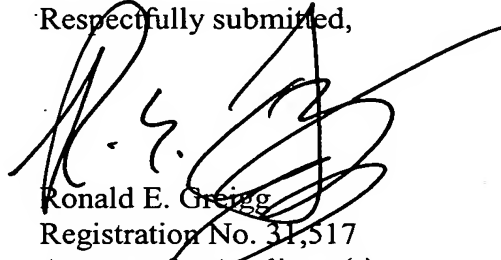
The purpose of this invention is to provide a method for embossing a resin film by which the resin film is smoothly stretched so that a molding surface is cleanly finished and a residual stress is eliminated and thereby, a postmolding shape is stabilized by internally generating heat due to ultrasonic vibration and the smooth release of a die after molding is achieved. The resin film F is thermally softened at a temperature close to its melting point and the die 3a is pressed to the resin film F while the ultrasonic vibration is applied to the die 3a. After that, when the die 3a reaches a final pressing position, application of the ultrasonic

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vibration is stopped and the die 3a is kept at the final pressing position for a specified time. Following this step, the die 3a is released from the resin film while the ultrasonic vibration is applied to the die 3a.

Examination of this application is respectfully requested.

Respectfully submitted,



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Enclosures
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